

**UNITED STATES DEPARTMENT OF COMMERCE****United States Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

MV

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
|-----------------|-------------|----------------------|---------------------|

09/525,741 03/14/00 GRIFFITHS

P 60130-391

PM82/0516

EXAMINER

THEODORE W OLDS III  
CARLSON GASKEY & OLDS  
400 W MAPLE ROAD  
SUITE 350  
BIRMINGHAM MI 48009

ROYAL, P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

3619

DATE MAILED:

05/16/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

|                              |                 |                      |
|------------------------------|-----------------|----------------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)         |
|                              | 09/525,741      | GRIFFITHS, PAUL JOHN |
| Examiner                     | Art Unit        |                      |
| Paul Royal                   | 3619            |                      |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 14 March 2000.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-6 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-6 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 14 March 2000 is/are objected to by the Examiner.

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

15) Notice of References Cited (PTO-892)

16) Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.

18) Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_

19) Notice of Informal Patent Application (PTO-152)

20) Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the attachment of the damper as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Correction is required.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the damper location with respect to vehicle components.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by *Bates* (US 3,913,940).

*Bates* teaches an air spring for a vehicle air suspension system comprising: a piston (B, see examiner annotated Figure 2) attached to a longitudinal member (6) pivotally attached to a chassis component (1) for pivotal movement about an axis; and

an air cell (A, see examiner annotated Figure 2) having a first end attached to the piston (B) and a second end attached to the chassis component (1), the second end having a greater diameter than the first end and is tapered between the first end and the second end and is of frustro-conical configuration.

4. Claim 4 is are rejected under 35 U.S.C. 102(b) as being clearly anticipated by *Bates* (US 3,913,940).

*Bates* teaches an air spring for a vehicle air suspension system comprising: a longitudinal member (6) pivotally attached to a chassis component (1) for pivotal movement about an axis;

an axle assembly (4) mounted to the longitudinal member (6)  
an air spring (11) having a frustro-conical air cell (A) and a piston (B), the air  
spring (11) disposed between the longitudinal member (6) and the chassis component  
(1), the air cell (11) having a first end attached to the piston (B) and a second end  
attached to the chassis component (1) and a damper (15).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all  
obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Bates*, as applied to claim 4, in view of *Smith* (US 5,234,203). *Bates* teaches an air suspension system for a vehicle all the limitations of claim 4 except wherein the air cell includes an anti-vacuum system and a damper extendable at a rate which allows the anti-vacuum system to equalize a pressure within the air cell with atmospheric pressure as the longitudinal member pivots about the axis from the chassis component.

*Bates* does not teach an anti-vacuum system.

*Smith* teaches an anti-vacuum system (90) to equalize a pressure within the air cell with atmospheric and to provide a spring which effectively cushions vibrations through a broad range of vibration frequencies.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air suspension system of *Bates* to include an anti-vacuum system (90) to equalize a pressure within the air cell with atmospheric, as taught by *Smith*, and to effectively cushion vibrations through a broad range of vibration frequencies.

Note, the damper (15, *Bates*) is understood to be capable of extending at a rate which allows the anti-vacuum system to equalize a pressure within the air cell with atmospheric pressure as the longitudinal member pivots about the axis away from the chassis component because it is well known to use a damper in a suspension system to control the rate of change in distance between the frame and the suspension components.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Bates* in view of *Smith* (US 5,234,203).

*Bates* teaches an air spring for a vehicle air suspension system comprising:  
a longitudinal member (6) pivotally attached to a chassis component (1) for pivotal movement about an axis;  
an axle assembly (4) mounted to the longitudinal member (6);  
an air spring (11) having a frusto-conical air cell (A) and a piston (B), the air spring (11) disposed between the longitudinal member (6) and the chassis component (1), the air cell (11) having a first end attached to the piston (B) and a second end attached to the chassis component (1) and a damper (15).

*Bates* does not teach an anti-vacuum system.

*Smith* teaches an anti-vacuum system (90) to equalize a pressure within the air cell with atmospheric and to provide a spring which effectively cushions vibrations through a broad range of vibration frequencies.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air suspension system of *Bates* to include an anti-vacuum system (90) to equalize a pressure within the air cell with atmospheric, as taught by *Smith*, and to effectively cushions vibrations through a broad range of vibration frequencies.

Note, the damper (15, *Bates*) is understood to be capable of extending at a rate which allows the anti-vacuum system to equalize a pressure within the air cell with atmospheric pressure as the longitudinal member pivots about the axis away from the chassis component because it is well known to use a damper in a suspension system to control the rate of change in distance between the frame and the suspension components.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Schubert et al.* (US 4,029,305) teaches a vibration isolation air suspension system. *Yew* (US 3,599,954) teaches a compound vacuum spring. *Schneider* (US 5,127,641) teaches an air spring having a sleeve like member.

*Koschinat et al.* (US 4,890,823) teaches an air spring with a piston plunger. *Paton* (US 5,364,086) teaches an air spring and sealing structure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Royal whose telephone number is 703-308-8570. The examiner can normally be reached on 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lanna Mai can be reached on 703-308-2486. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

  
P. Royal  
May 14, 2001

  
PETER C. ENGLISH  
PRIMARY EXAMINER  
